

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Recommendation by Expert Panel | Implementation |
|---|---|
| <p>1. Implement Best Available Technologies (BAT) using a phased approach.</p> <ul style="list-style-type: none"> • For existing tailings impoundments. Rely on best practices for the remaining active life. • For new tailings facilities (TSF). BAT should be actively encouraged for new tailings facilities at existing and proposed mines. • For closure. BAT principles should be applied to closure of active impoundments so that they are progressively removed from the inventory by attrition. | <p>Complete, based on the following changes to the Health, Safety and Reclamation Code for Mines in BC (Code):</p> <ul style="list-style-type: none"> • Added a definition of Best Available Technology and the requirement of an alternatives assessment that considers BAT in future Mines Permit applications • Environmental Assessment Office requires new mine projects to assess BAT for tailings management |
| <p>2. Improve corporate governance:</p> <ul style="list-style-type: none"> • Corporations proposing to operate a tailings storage facility (TSF) should be required to be a member of the Mining Association of Canada (MAC) or be obliged to commit to an equivalent program for tailings management, including the audit function. | <p>Complete, based on the following changes to the code:</p> <p>Mines with one or more tailings storage facilities shall develop and maintain a Tailings Management System that includes regular system audits</p> <ul style="list-style-type: none"> • The Mining Association of Canada (MAC) established independent expert task force to review its tailings management requirements under its Towards Sustainable Mining (TSM) program. Recommendations were released in December 2015 |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General's Report on Mining**

| Recommendation by Expert Panel | Implementation |
|---|---|
| <p>3. Expand corporate design commitments:</p> <ul style="list-style-type: none"> • Future permit applications for a new TSF should be based on a bankable feasibility that would have considered all technical, environmental, social and economic aspects of the project in sufficient detail to support an investment decision, which might have an accuracy of +/- 10-15%. More explicitly it should contain the following: <ul style="list-style-type: none"> • A detailed evaluation of all potential failure modes and a management scheme for all residual risk • Detailed cost/benefit analyses of BAT tailings and closure options so that economic effects can be understood, recognizing that the results of the cost/benefit analyses should not supersede BAT safety considerations • A detailed declaration of Quantitative Performance Objectives (QPOs). | <p>Complete, based on the following changes to the code:</p> <p>New permit application requirements for alternatives assessment of BAT, declaration of QPOs, and proposed program for prediction, identification and management of physical, chemical, and other risks associated with tailings storage facilities and dams.</p> <p>The alternatives assessment for TSFs will consider BAT and will provide a comparative analysis of options considering the following sustainability factors:</p> <ul style="list-style-type: none"> • Environment • Society • Economics |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General's Report on Mining**

| Recommendation by Expert Panel | Implementation |
|--|---|
| <p>4. Enhance validation of safety and regulation of all phases of a TSF:</p> <ul style="list-style-type: none"> • Increase utilization of Independent Tailings Review Boards. • Utilize the concept of Quantitative Performance Objectives (QPOs) to improve regulator evaluation of ongoing facilities. | <p>Complete, based on the following changes to the code:</p> <ul style="list-style-type: none"> • All existing mines in British Columbia with TSFs must establish an Independent Tailings Review Board by Dec. 31, 2016. • The Terms of Reference and the proposed membership of the Independent Tailings Review Boards must be approved by the Chief Inspector of Mines. • Mines must submit an annual report to the Chief Inspector of Mines that include details on the activities of the mine's independent tailings review board including: <ul style="list-style-type: none"> • a summary of the reviews conducted that year; • whether the work reviewed that year by the ITRB meets the Board's expectations of reasonably good practice; • any conditions that compromise Tailings Storage Facility integrity or occurrences of non-compliance with recommendations from the engineer of record; and, • a signed acknowledgement by the members of the Independent Tailings Review Board, confirming that the report is a true and accurate representation of their reviews. |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Recommendation by Expert Panel | Implementation |
|---|--|
| <p>5. Strengthen current regulatory operations:</p> <ul style="list-style-type: none"> • Utilize the recent inspections of TSFs in the province to ascertain whether they may be at risk due to the following potential failure modes and take appropriate actions <ul style="list-style-type: none"> ○ Filter adequacy ○ Water balance adequacy ○ Undrained shear failure of silt and clay foundations | <p>Completed.</p> <p>Final submissions received June 30, 2015. More information available here: http://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/dam-safety-inspections-2014</p> |
| <p>6. Improve professional practice:</p> <ul style="list-style-type: none"> • Encourage the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) to develop guidelines that would lead to improved site characterization for tailings dams with respect to the geological, geomorphological, hydrogeological and possibly seismotectonic characteristics. | <p>Completed.</p> <p>APEGBC has now completed their professional practice guidelines for dam site characterization assessments</p> |
| <p>7. Improve dam safety guidelines:</p> <ul style="list-style-type: none"> • Recognizing the limitations of the current Canadian Dam Association (CDA) guidelines incorporated as a statutory requirement, develop improved guidelines that are tailored to the conditions encountered with TSFs in British Columbia and that emphasize protecting public safety. | <p>Complete, based on the following changes to the code:</p> <p>The mining code now includes design standards for TSFs that are tailored to the conditions encountered in British Columbia and that emphasize protecting the public and environment including:</p> <ul style="list-style-type: none"> • TSF design requirements for the steepness of downstream slopes. • A minimum static factor of safety. • New seismic and flood design criteria. |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Recommendation by Investigation Report from Chief Inspector of Mines | Implementation |
|--|--|
| <p>1-1 Mine Dam Safety Manager</p> <ul style="list-style-type: none"> Any mine with tailings storage facilities (TSFs) should have a qualified individual designated as a mine dam safety manager responsible for oversight of planning, design, operation, construction | <p>Complete, based on the following changes to the code:</p> <ul style="list-style-type: none"> Mines with one or more tailings storage facilities shall designate a TSF Qualified Person for safe management of the Tailings Storage Facility |
| <p>1-2 Water Balance Management</p> <ul style="list-style-type: none"> Water management and water balance issues for mining projects must be designed by a qualified professional. These issues require the integration of relevant mine departments. | <p>Complete, based on the following changes to the code:</p> <ul style="list-style-type: none"> Impoundments, tailings storage facilities and water management facilities and dams shall be designed by a Professional Engineer Tailings storage facilities must have a water balance and water management plan for the permitted life of mine that is prepared by a qualified person Water balance and water management plans shall be reconciled annually and updated as required, after the commencement of operations |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Recommendation by Investigation Report from Chief Inspector of Mines | Implementation |
|--|--|
| <p>1-3 TSF Operations, Maintenance and Surveillance Manual</p> <ul style="list-style-type: none"> The mine manager should ensure the Operation, Maintenance and Surveillance manual (OMS) required by the Code for all impoundments adheres to applicable CDA and MAC guidelines. Additional guidance for the OMS should include incorporation of an annual risk assessment/risk management plan and relevant findings of an independent technical review board. | <p>Complete, based on the following changes to the code:</p> <ul style="list-style-type: none"> An Operations, Maintenance and Surveillance (OMS) manual shall be prepared by one or more qualified person and submitted to the chief inspector prior to operation of the facilities The OMS manual must be reviewed annually and revised regularly during operations, decommissioning and closure of a tailings storage facility or dam and the the risk assessment for all tailings storage facilities and associated dams must also be reviewed annually to ensure that the quantifiable performance objectives and operating controls are current and manage the facility risks QPOs and operating controls are included as part of the OMS |
| <p>1-4 Mine Emergency Response Plan</p> <ul style="list-style-type: none"> The mine manager must ensure that the Mine Emergency Response Plan (MERP) adheres to applicable regulations, is maintained on a regular basis for currency, incorporates appropriate response measures to emergencies including those involving the TSF, and is written and distributed in such format as to serve as a procedural guide during an emergency or other event. | <p>The Health and Safety Portion of the Code Review is expected to be completed and in force by early 2017, this committee will consider revisions to allow the Mine Emergency Response Plan (MERP) and how it will align with the EPRP (Emergency Preparedness and Response Plan).</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Recommendation by Investigation Report from Chief Inspector of Mines | Implementation |
|--|---|
| <p>1-5 Risk Recognition and Communication</p> <ul style="list-style-type: none"> All mine personnel have a role to play in recognizing and reporting risk conditions, especially those that could affect health, safety and environmental protection; and should be educated in the recognition of conditions and events that could impact TSF safety or contravene applicable permit conditions and regulations. | <p>Complete, based on the following changes to the code:</p> <ul style="list-style-type: none"> The engineer of record shall immediately notify the manager in writing of any unresolved safety issue that compromises the integrity of a tailings storage facility The OMS sets out information on QPOs, and performance goals for the mine and TSF. Ensuring employees have been trained in the use of the manual and its operational controls will provide the means for them to determine who to notify and will provide the education to know when an event or conditions occur that could impact TSF safety or integrity. |
| <p>2-1 Design Objectives</p> <ul style="list-style-type: none"> Tailings storage and water management systems and structures should be designed for worker and public safety and the protection of the environment. TSF design should incorporate a comprehensive feasibility assessment that considers technical, environmental, social, and economic aspects of the mining project in sufficient detail to support the submitted design. | <p>Complete, based on the following changes to the code:</p> <p>The alternatives assessment for TSFs will consider BAT and will provide a comparative analysis of options considering the following sustainability factors:</p> <ul style="list-style-type: none"> Environment Society Economics <p>Minimums have been outlined for Seismic and Flood Design Criteria, Design Slopes (2:1), Static Factor of Safety (1.5), Beach and Inundation Study and Failure Runout Assessments</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Recommendation by Investigation Report from Chief Inspector of Mines | Implementation |
|--|--|
| <p>2-2 Independent Technical Review Board</p> <ul style="list-style-type: none"> Mines with impoundments should each develop independent technical review boards (ITRB) to provide additional perspectives on site investigation, site selection, design, construction, maintenance, operations, surveillance, water management and closure. | <p>Complete, based on the following changes to the code:</p> <ul style="list-style-type: none"> All existing mines in British Columbia with TSFs must establish an Independent Tailings Review Board by Dec. 31, 2016. The Terms of Reference and the proposed membership of the Independent Tailings Review Boards must be approved by the Chief Inspector of Mines. |
| <p>3-1 Professional Reliance</p> <ul style="list-style-type: none"> The Chief Inspector recognizes the necessity of reliance on professional practice for the design, construction, operation and closure of mines and mine facilities. The Regulator does not design the mine or associated structures, and thus is reliant on the professional practice of the designer. Reliance on professional practice requires that the organizations overseeing the professionals or developing guidelines and standards for the professional community incorporate best available practices into their oversight. | <p>Complete, based on the following changes to the code:</p> <p>The Code outlines requirements for the designation and reporting responsibility for the mine to designate an Engineer of Record who is a professional engineer.</p> <p>The Engineer of Record has a duty to report any unresolved safety issue that compromises the integrity of the TSF.</p> <p>Additionally, the Code sets out requirements for professionals or designated responsibilities for the creation of water management and water balance plans.</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Recommendation by Investigation Report from Chief Inspector of Mines | Implementation |
|---|--|
| <p>3-2 Integration of Standards</p> <ul style="list-style-type: none"> The Regulator should consider and incorporate as appropriate guidelines from these external associations as applicable and consistent with MEM objectives. | <p>Complete, based on the following changes to the code:</p> <p>Sections added specifying: <u>10.1.8</u> Seismic and Flood Design Criteria, <u>10.1.9</u> Design Slopes <u>10.1.10</u> Minimum Factor of Safety <u>10.1.11</u> Breach and Inundation Study and Failure Runout Assessments</p> <ul style="list-style-type: none"> Mines with one or more tailings storage facilities shall develop and maintain a Tailings Management System that includes regular system audits |
| <p>4-1 Review of the Code</p> <ul style="list-style-type: none"> MEM should undertake a comprehensive review of the Code to ensure that the lessons learned and recommendations from this report are fully considered and appropriately incorporated; and that all relevant standards and guidelines from external bodies (such as MAC, CDA, and APEGBC) are fully considered in the review as appropriate. | <p>Completed.</p> <p>The Minister of Energy and Mines appointed a Code Review Committee, pursuant to section 34 of the Mines Act in June 2015.</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Recommendation by Investigation Report from Chief Inspector of Mines | Implementation |
|---|--|
| <p>4-2 Life of Mine Planning for Permitting</p> <ul style="list-style-type: none"> Short-term, incremental Mines Act permit amendment applications can obscure life-of-mine conditions and long-term risks. The Regulator should ensure a perspective that spans the life of the mine be considered for Mines Act permit applications, while acknowledging that the nature of mining frequently requires changes to the life-of-mine plan. | <p>Complete, based on the following changes to the code:</p> <ul style="list-style-type: none"> A mine plan must be included in the Mines Act permitting application that includes an inventory of areas disturbed to date, and projected over the next 5 years and over the projected life of the mine Mine, environmental protection, reclamation and closure plans shall be prepared in consideration of the HSRC Guidance Document, by qualified professionals or persons who in the opinion of the chief inspector are qualified to perform the work. |
| <p>4-3 Investigation, Compliance and Enforcement Review</p> <ul style="list-style-type: none"> The Regulator must enhance its investigative capacity, as well as its ability to exercise its existing compliance and enforcement authority under the Mines Act and Code. A supported director-equivalent position specific to investigation, compliance and enforcement should be established to evaluate and oversee these roles. This oversight should extend to applying recommended standards to the Regulator’s compliance and enforcement function. A full range of regulatory tools, such as incentives, administrative penalties, outside agency collaboration and other best practices should be considered. | <p>Completed.</p> <p>Deputy Chief Inspector of Mines position now in place. Legislation to enable Administrative Penalties under Mines Act passed in the Spring 2016 session.</p> <p>The legislation also increased penalties available for court prosecutions under the act from \$100,000 and/or up to one year imprisonment to \$1 million and/or up to three years imprisonment</p> <p>Deputy Minister Compliance and Enforcement board created.</p> <p>EAO, MEM and MOE board established to oversee compliance and enforcement oversight.</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Recommendation by Investigation Report from Chief Inspector of Mines | Implementation |
|--|--|
| <p>4-4 Geotechnical Oversight</p> <ul style="list-style-type: none"> The Regulator has a responsibility to oversee the decisions of the EoR. The Regulator must maintain sufficient technical capacity to conduct appropriate oversight of the professional opinions on which it relies. A Regulatory Dam Safety Manager dedicated to the coordinated regulatory oversight of tailings dams in the Province could be responsible for ongoing policy development, technical review, and inspection capacity as it relates to tailings impoundments. | <p>Province is reviewing how best to clarify accountability for this role within the inspectorate.</p> |
| <p>4-5 Organizational Review of Inspectorate</p> <ul style="list-style-type: none"> There exists an ongoing need to adequately support the increased tempo of review, monitoring and inspection that would be placed on MEM’s inspectorate. It is recommended that a comprehensive internal review of operational and business practices be conducted. | <p>Review underway and will form part of the compliance and enforcement strategic plan.</p> |
| <p>5-1 Internal Records Management</p> <ul style="list-style-type: none"> A formal MEM management system of documentation for all mines from development to post-closure should be established. The system will assist the Chief Inspector in integrating regulatory oversight capabilities; assist with investigation, project tasking, formal documentation and indexing; and enhance the ability of MEM to meet the expectations for transparency and appropriate disclosure within the limits of privacy considerations. | <p>Field inspection tools information technology projects are in design phase, expectation to be completed by early 2017.</p> <p>MEM reviewing records management systems and options.</p> |
| <p>6-1 Alignment of Regulatory Objectives</p> <ul style="list-style-type: none"> Agency objectives (environmental protection, worker health and safety, facilities integrity) overlap but are not always integrated. MOE and MEM interests, disciplines and standards should be reviewed for alignment opportunities to support timely and effective program outcomes while optimally fulfilling the mandates of both agencies. | <p>EAO, MEM and MOE board established to oversee compliance and enforcement oversight.</p> <p>Strategic planning underway for compliance and enforcement.</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Recommendation by Investigation Report from Chief Inspector of Mines | Implementation |
|--|---|
| <p>6-2 Permitting Process Alignment</p> <ul style="list-style-type: none"> Separate permitting processes for MEM and MOE should be reviewed for opportunities to integrate and align these processes as appropriate to avoid duplication and increase efficiencies. | <p>Completed.</p> <p>Integration between Ministry of Energy and Mines and Ministry of Environment is a key priority and the Major Mines Permitting Office has been created and is in place.</p> <p>Permitting process is being led by the Major Mines Permitting Office which is accountable to a cross-sector project board.</p> |
| <p>7-1 Collaborative Education</p> <ul style="list-style-type: none"> MEM, the industry, professional organizations, and educational institutions should continue to seek new collaborative opportunities to foster education (including formal academic, onsite or online employee-focused, public-facing, and professional continuing education). | <p>Ongoing educational programs being supported by Mining Association of BC, BCIT, Community College School of Exploration and Mining, UBC, Northwest Community College and others.</p> |
| <p>7-2 Research and Development</p> <ul style="list-style-type: none"> Current technologies in tailings processing, dewatering, and discharge water treatment have not achieved a sufficient level of technical and economic feasibility in many projects. Both government and industry should support research and development efforts to improve these technologies for practical application. | <p>Complete, based on the following changes to the code:</p> <p>Government is now requiring an assessment of BAT/BAP under the new EAO requirements.</p> <p>Government is also participating in various initiatives such as the Mine Environment Neutral Drainage (MEND) Committee who has commissioned a study on Tailings Management Technologies which is expected to be complete in 2016.</p> <p>Added a definition of Best Available Technology and the requirement of an alternatives assessment that considers BAT in future Mines Permit applications</p> <p>Environmental Assessment Office requires new mine projects to assess BAT for tailings management</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Auditor General Recommendations | |
|--|--|
| Part 1: Recommendations for Government | |
| <p>Recommendation 1.0 – Overall Recommendation We recommend that the Government of British Columbia create an integrated and independent compliance and enforcement unit for mining activities, with a mandate to ensure the protection of the environment. Given that the Ministry of Energy and Mines is at high risk of regulatory capture, primarily because MEM’s mandate includes a responsibility to both promote and regulate mining, our expectation is that this new unit would not reside within this ministry.</p> | <p>Response: It is the legislative framework in BC that drives compliance and enforcement activities not the organizational structure. Many provincial governments across Canada have agencies and ministries with the role of promoting and regulating an industry. In the absence of evidence by the Auditor General that this has compromised the integrity of the ministry or its staff, Government does not see the need for a reorganization of the ministries, however we are prepared to further discuss this with the OAG. Government will establish a Mining C&E Board that will address the need for greater integration between the ministries, as well as with the Environmental Assessment Office.</p> <p>Deputy Minister Compliance and Enforcement board created.</p> |
| Part 2: Recommendations for Ministry of Energy and Mines and Ministry of Environment | |
| <p>Recommendation 1.1 – Strategic Planning We recommend that government develop a strategic plan that would detail the activities of an integrated and coordinated regulatory approach, and the necessary capacity, tools, training and expertise required to achieve its goals and objectives.</p> | <p>Response: A Mining C&E Board has been created to oversee an integrated and coordinated regulatory approach to mining in the Province of B.C. The Board consists of the Deputy Minister of Energy and Mines, the Deputy Minister of Environment and the Associate Deputy Minister of the Environmental Assessment Office.</p> <p>The Board is developing compliance and enforcement plans to map out proactive annual activities based on a risk-based approach. The board is also responsible for furthering longer term strategic improvements in other areas such as: enhancing training; developing policies, procedures and tools; conducting evaluations; and expanding public reporting.</p> <p>Deputy Chief Inspector of Mines position has been created.</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Auditor General Recommendations | |
|---|---|
| <p>Recommendation 1.2 – Permit Language We recommend that government ensure both historical and current permit requirements are written with enforceable language.</p> | <p>Response: Permits now being written with measureable and enforceable requirements.</p> <p>Both ministries are developing further policy to ensure enforceable and measurable requirements are used in all new and amended permits.</p> |
| <p>Recommendation 1.9 – Incentives We recommend that government create effective incentives to promote environmentally responsible behavior by industry.</p> | <p>Response: The ministries agree that it is useful to consider incentives as part of the compliance and enforcement regime governing mines and will continue to consider additional opportunities to recognize and reward good environmental performers. Furthermore, it is expected that expanded public reporting of compliance and enforcement activities will serve as a very effective incentive for promoting environmentally responsible behaviour.</p> |
| <p>Recommendation 1.10 – Risk-Based Approach We recommend that government develop a risk-based approach to compliance verification activities, where frequency of inspections are based on risks such as industry’s non-compliance record, industry’s financial state, and industry’s activities (e.g., expansion), as well as risks related to seasonal variations.</p> | <p>Response: Compliance verification activities conducted by the ministries are founded on a risk-based approach; however, the ministries are reviewing policies in this regard.</p> <p>The annual compliance and enforcement planning that is taking place at the Mining C&E Board, established under recommendation 1.1, will be risk-based to optimize the capacity and effectiveness of the ministries’ collective compliance and enforcement resources.</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Auditor General Recommendations | |
|--|---|
| <p>Recommendation 1.12 – Qualified Professionals We recommend that government establish policies and procedures for the use and oversight of qualified professionals (QP) across the natural resources sector. These policies and procedures should have the following:</p> <ul style="list-style-type: none"> • guidance for staff that outlines the specific nature and amount of oversight expected of a QP’s work • guidance for staff as to expected timeframe for review and response to QP reports • updated guidance for staff for recognizing and responding to misconduct by a QP • controls in place to ensure that there is no undue influence on the QPs by industry • controls in place to ensure that recommendations by QPs are adhered to | <p>Response: The Code now outlines requirements for the designation and reporting responsibility for the mine to designate an Engineer of Record who is a professional engineer.</p> <p>The Engineer of Record has a duty to report any unresolved safety issue that compromises the integrity of the TSF.</p> <p>Additionally, the Code sets out requirements for professionals or designated responsibilities for the creation of water management and water balance plans.</p> <p>The Mining C&E Board, established under recommendation 1.1, is considering how MoE and MEM can strengthen the use and oversight of qualified professionals in the mining sector specifically.</p> <p>The Ministry of Forests, Lands and Natural Resource Operations has established a Qualified Persons in the Natural Resource Sector Framework. This framework guides the development and implementation of Qualified Persons policies and procedures specifically for the mining sector. The framework is based on the three essential components of guidance, competency and accountability and ensures the interests of government, resource users, qualified persons and other stakeholders are recognized and addressed.</p> |
| <p>Recommendation 1.14 – Policies, Procedures and Tools We recommend that government develop policies, procedures and enforcement tools for responding to non-compliances when industry does not meet government’s specified timeline.</p> | <p>Response: The ministries agree on the importance of clear policies, procedures and tools to aid in their compliance and enforcement activities. The ministries are reviewing in light of the recommendations. The establishment of the Mining C&E Board, under recommendation 1.1, is serving to further inter-ministry collaboration and sharing of best practices.</p> <p>Government has passed amendments to the <i>Mines Act</i> to provide for Administrative Monetary Penalties in the spring 2016 legislative session.</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Auditor General Recommendations | |
|--|---|
| <p>Recommendation 1.15 – Evaluation and Adjustment We recommend government regularly evaluate the effectiveness of its compliance promotion, compliance verification, and enforcement activities and tools, and make changes as needed to ensure continuous improvement.</p> | <p>Response: Annual compliance and enforcement planning and reporting will provide a means to evaluate the effectiveness of the program, to ensure ongoing improved targeting of areas of concern and recognition of strong performers. The ministries are addressing this recommendation through the Mining C&E Board under recommendation 1.1.</p> |
| <p>Recommendation 1.16 – Public Reporting We recommend that government report publicly the:</p> <ul style="list-style-type: none"> • results and trends of all mining compliance and enforcement activities • effectiveness of compliance and enforcement activities in reducing risks and protecting the environment • estimated liability and the security held for each mine. | <p>Response: The ministries support public reporting and have made progress in this area. The Ministry of Environment has been reporting its enforcement actions for many years through published reports and an online searchable database. It reports all of its enforcement actions including orders, administrative sanctions, administrative monetary penalties, violation tickets and court prosecutions. The ministry is working with Ministry of Energy and Mines to explore including their enforcement actions in the reporting.</p> <p>In 2012, the Ministry of Environment published all of its permits for industrial and municipal facilities that discharge waste into the environment, including mines. This dataset provides the opportunity for citizens to access province-wide data on those facilities, including information on fees, locations and discharges.</p> <p>The Ministry of Energy and Mines published all dam safety inspections, emergency response plans and related documents online in 2015. The ministry is continuing work to further publish further information on all major mines in British Columbia.</p> <p>The ministries will report on trends and effectiveness of C&E in the mining sector.</p> |
| Part 3: Recommendations for Ministry of Energy and Mines | |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Auditor General Recommendations | |
|--|---|
| <p>Recommendation 1.3 – Security – Adequate Coverage We recommend that government safeguard taxpayers by ensuring the reclamation liability estimate is accurate and that the security held by government is sufficient to cover potential costs.</p> | <p>Response: As seen in the 2014 Chief Inspector’s Annual Report, “In the past few years, the value of security deposits has increased to reflect more closely the true costs of reclamation. The total value of securities held by the Province has risen from \$10 million in 1984 to more than \$773 million by the end of 2014.”</p> |
| <p>Recommendation 1.4 – Security – Catastrophic Events We recommend that government review its security mechanisms to ensure taxpayers are safeguarded from the costs of an environmental disaster.</p> | <p>Response: Environmental disasters, like the one seen as a result of the Mount Polley tailing facility breach, can result in damage both on and off a mine site. It is the responsibility of the mine operator to ensure sufficient environmental liability insurance is held to meet the risk of such disasters.</p> <p>The <i>Environmental Management Act</i> contains authority for spill response actions and cost recovery to require persons in possession or control of any polluting substance to prepare contingency plans and to implement those plans at their expense in the event of a spill. The Act also provides for the recovery of costs should action to respond to a spill be declared by the Minister.</p> <p>This Act is being amended to proactively require potential polluters to pay into a spill preparedness and response organization. These amendments are due for introduction to the Legislature this year.</p> |
| <p>Recommendation 1.8 – Reclamation Guidance We recommend that government develop clear and comprehensive reclamation guidance for industry.</p> | <p>Response: Internal work has begun on developing additional guidance materials on a range of reclamation aspects, including erosion and sediment control plans, closure management manuals, reclamation security, etc.</p> |
| <p>Recommendation 1.11 – Systematic Compliance Verification We recommend that government systematically monitor and record compliance with high-risk mine permit requirements.</p> | <p>Response: As with Recommendation 1.10, a risk-based approach to compliance and enforcement workforce planning will uncover poor performers for closer scrutiny.</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Auditor General Recommendations | |
|---|---|
| <p>Recommendation 1.13 – Mine Design We recommend that government adopt appropriate standards, review mine designs to ensure that they meet these standards, and ensure that mines, as constructed, reflect the approved design and standards.</p> | <p>Response: This recommendation is presented at the conclusion of the Audit Report section on the Mount Polley TSF breach.</p> <p>There had been nine design stages over the life of the TSF at Mount Polley Mine. All stages, including the design stage in place at the time of the breach had been prepared by the design engineer; a qualified professional. MEM reviewed and authorized permit amendments for each stage of the TSF. Each stage of construction was certified by the Engineer of Record in the as-built reports. The failure of the TSF was not an enforcement issue.</p> <p>Through legislation like the <i>Engineers and Geoscientists Act</i>, government has created technical bodies to formalize accountability and protect the public interest. As appropriate in their role, in response to the Expert Panel findings on Mount Polley the Association of Professional Engineers and Geoscientists BC has completed their professional practice guidelines for dam site characterization assessments with a public release expected in August 2016.</p> <p>Within the Code Review minimums have been outlined for Seismic and Flood Design Criteria, Design Slopes (2:1), Static Factor of Safety (1.5), Beach and Inundation Study and Failure Runout Assessments</p> <p>The Code now requires permit applications to show an alternatives assessment of BAT, declaration of QPOs, and proposed program for prediction, identification and management of physical, chemical, and other risks associated with tailings storage facilities and dams.</p> |
| Part 4: Recommendations for Ministry of Environment | |
| <p>Recommendation 1.5 – Environmental Management Act Waste Discharge Fees We recommend that government review its fees under the <i>Environmental Management Act</i> and ensure that the fees are effective in reducing pollution at mine sites.</p> | <p>Response: The Ministry of Environment is committed to reviewing the fee structure for waste discharges under the <i>Environmental Management Act</i>. Work has already been initiated to assess current fees, as well as conduct a cross-jurisdictional scan of fees imposed by other provinces and territories.</p> |

**Update on Implementation of Recommendations
from the Expert Panel Report, the Chief Inspector of Mines Investigation Report and Auditor General’s Report on Mining**

| Auditor General Recommendations | |
|--|---|
| <p>Recommendation 1.6 – Cost Recovery We recommend that government adopt a cost recovery model for permitting and compliance verification activities that is consistent across all ministries in the natural resources sector.</p> | <p>Response: The Ministry of Environment recognizes that other natural resource sector ministries, including the Environmental Assessment Office, have begun imposing fees on industry for permitting and compliance verification activities. The ministry will be examining the imposition of fees for these activities.</p> <p>Effective April 1, 2015 permit fees were introduced under the <i>Mines Act</i> and the existing inspection fees were raised. This enabled a budget increase of approx. \$9.3M to the Ministry of Energy and Mines in Budget 2016.</p> |
| <p>Recommendation 1.7 – Decision Making – Use of section 137 of the <i>Environmental Management Act</i> We recommend that government publically disclose its rationale for granting a permit under section 137 of the <i>Environmental Management Act</i>. Specifically, information should include how factors such as economic, environmental, and social attributes were considered in the determination of public interest.</p> | <p>Response: As provided for in Section 137 of the <i>Environmental Management Act</i>, Cabinet may consider factors that are in the public interest and beyond those that a ministry director may consider. Discussions underlying the approval of an OIC are a matter of Cabinet confidentiality. However, the results of Cabinet decisions, when they are issued in the form of OICs, are published on the BC Laws website.</p> |